



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

JUL 18 2013

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

**Article Number: 7005 3110 0000 5954 9582**

Mr. Jacob S. Tawil, Commissioner of Public Works  
City of Middletown New York  
16 St. James Street  
Middletown, New York 10940

Re: City of Middletown  
SPDES Permit No. NYR20A271

Dear Mr. Tawil:

This is in reference to the United States Environmental Protection Agency's (USEPA) Region 2, MS4 Compliance Evaluation Inspection (CEI) at the subject facility on February 13 and April 1-4, 2013. This inspection report includes recommendations and areas of potential noncompliance that must be addressed, especially with respect to deficiencies noted at the DPW and Sanitation facilities due to poor housekeeping/O&M issues (see enclosed report).

Within thirty (30) days of receipt of this letter, please respond to the USEPA in writing with the actions that the facility has taken or will take to address the potential noncompliance items and areas of concern identified in this report. Also, please send copies of your response to Joe DiMura, P.E., Director, Bureau of Water Compliance Programs, Division of Water, NYSDEC, 625 Broadway, Albany, NY 12233-3506.

Should you have any questions feel free to contact Jerry Ciotola at (212) 637-4223 or myself at (212) 637-4229.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Justine Modigliani".

Justine Modigliani, Chief  
Compliance Section

Enclosure

cc: Joe DiMura, P.E., Director, Bureau of Water Compliance Programs, NYSDEC  
Pat Ferricane, NYSDEC Region 3, White Plains, NYSDEC



United States Environmental Protection Agency  
Washington, D.C. 20460  
**Water Compliance Inspection Report**

Form Approved.  
OMB No. 2040-0057

**Section A: National Data System Coding (i.e., PCS)**

|                      |                                            |                   |                 |           |          |
|----------------------|--------------------------------------------|-------------------|-----------------|-----------|----------|
| Transaction Code     | NPDES                                      | yr/mo/day         | Inspection Type | Inspector | Fac Type |
| 1 N                  | N Y R 2 0 A 2 7 1                          | 12 1 3 0 8 0 7 17 | -               | R         | 1        |
| Remarks              |                                            |                   |                 |           |          |
| 21                   |                                            |                   |                 |           |          |
| 66                   |                                            |                   |                 |           |          |
| Inspection Work Days | Facility Self-Monitoring Evaluation Rating | B1                | QA              | Reserved  |          |
| 67 4                 |                                            | 71                | 72              | 73        | 74 75 80 |

**Section B: Facility Data**

|                                                                                                                                    |                                               |                        |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------|
| Name and Location of Facility Inspected (for industrial users discharging to POTW, also include POTW name and NPDES permit number) | Entry Time/Date                               | Permit Effective Date  |
| City of Middletown<br>16 James Street<br>Middletown, NY 10940                                                                      | 2/13/13 (10:30 am),<br>4/1-4/4/2013 (8:30 am) | N/A                    |
|                                                                                                                                    | Exit Time/Date                                | Permit Expiration Date |
|                                                                                                                                    | 4/4/2013 (9 am)                               | N/A                    |
| Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)                                                              | Other Facility Data                           |                        |
| Christopher Gross<br>Clark, Patterson, Lee<br>800-274-9000 ext 3103                                                                |                                               |                        |
| Name, Address of Responsible Official/Title/Phone and Fax Number(s)                                                                |                                               |                        |
| Jacob Tawil, Commissioner of Public Works<br>16 James Street<br>Middletown, NY 10940<br>845-343-4014                               |                                               |                        |
| Contacted                                                                                                                          |                                               |                        |
| <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                |                                               |                        |

**Section C: Areas Evaluated During Inspection (Check only those areas evaluated)**

|                                                              |                                                  |                                                              |                                                   |
|--------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Permit                              | <input type="checkbox"/> Flow Measurement        | <input checked="" type="checkbox"/> Operations & Maintenance | <input type="checkbox"/> CSO/SSO (Sewer Overflow) |
| <input checked="" type="checkbox"/> Records/Reports          | <input type="checkbox"/> Self-Monitoring Program | <input type="checkbox"/> Sludge Handling/Disposal            | <input type="checkbox"/> Pollution Prevention     |
| <input checked="" type="checkbox"/> Facility Site Review     | <input type="checkbox"/> Compliance Schedules    | <input type="checkbox"/> Pretreatment                        | <input type="checkbox"/> Multimedia               |
| <input checked="" type="checkbox"/> Effluent/Receiving Water | <input type="checkbox"/> Laboratory              | <input checked="" type="checkbox"/> Storm Water MS4          | <input type="checkbox"/> Other: STP's             |

**Section D: Summary of Findings/Comments (Attach additional sheets of narrative and checklists as necessary)**

See Attached Report.

**Also present on site:**

Robert Ferri, Environmental Protection Agency, R2-WCB (212) 637-4227  
Jerry Ciotola, Environmental Protection Agency, R2-WCB (212) 637-4262  
Luis Rodriguez, Environmental Protection Agency, R2-WCB (212) 637-3567  
Christy Arvizu, Environmental Protection Agency, R2-WCB (212) 637-3961

|                                                 |                                                                      |          |
|-------------------------------------------------|----------------------------------------------------------------------|----------|
| Name(s) and Signature(s) of Inspector(s)        | Agency/Office/Phone and Fax Numbers                                  | Date     |
| J. Ciotola, Env. Eng./R.Ferri, Geologist        | EPA/DECA-WCB (212) 637-4223/FAX:x4211<br>EPA-DECA-WCB (212) 637-4227 | 4/9/2013 |
| Signature of Management Q/A Reviewer            | Agency/Office/Phone and Fax Numbers                                  | Date     |
| J. Modigliani, Acting Chief, Compliance Section | EPA/DECA-WCB/(212) 637-3961                                          | 7/10/13  |

**MS4 Inspection Report/City of Middletown, NY  
(NYR20A271) – February 13, 2013 and April 1-4, 2013**

Location: City of Middletown, Orange County, NY  
Outlet Location: Monhagen Brook  
Walkill River  
Weather Conditions: rain (February 13, 2013),  
dry (April 1-4, 2013)

**Contacts:**

Jacob S. Tawill, P.E., Commissioner of Public Works- 845-346-4121  
Department of Public Works  
City of Middletown  
16 James Street  
Middletown, New York 10940  
Tel: 845-343-3169  
Fax: 845-343-4014  
Jtawil@Middletown-NY.com

Walter C. Welch, Building Inspector, 845-342-3169  
Michael G. Moser, Deputy Commissioner for Water and Sewer, 845-343-3169  
Christopher Gross, Clark Patterson Lee, 800-274-9000 x. 3103  
Jeff Schumer (not present) is the primary contact at Clark, Paterson, Lee

**Background**

The City of Middletown is located in the eastern part of Orange County, New York with a population of 28,086 based on the year 2010 census. The population density was approximately 5,041 people per square mile (1,946/km<sup>2</sup>).

Middletown is basically surrounded by the Town of Walkill, and on the south by the Town of Wawayanda. The Village has a total land area of 5.2 sq. miles. The highway network connects with I-84 and NY-17, which runs thru the city. The Village is primarily a residential community made up mostly of single family homes with two business areas, one running along Route 211 to the east and an older downtown area with light industrial warehouses and small businesses.

The main water body to which stormwater flows is the Monhagen Brook, running through the center of the city, and to a lesser extent, Draper Brook to the western border. Middletown has a separate stormwater conveyance system which consists of storm water outfalls, catch basins, and interconnecting pipes maintained by the Department of Public Works. There are approximately 180 stormwater outfalls and 2300 catch basins within the city. The Dolson Avenue wastewater treatment plant, recently upgraded, ultimately discharges to the Walkill River, is within the city limits.

The City's Storm Water Management Plan was prepared by the Dept of Public Works and submitted to EPA on February 14, 2013 (revised since 2012). According to the most recent MS4 Annual Report to

NYSDEC, ending March 9, 2013, prepared by Clark Patterson Lee, the City has a total of 200 storm water outfalls and 5,000 catch basins mapped.

## **Introduction**

On February 13, 2013, a briefing meeting was held with City officials that included Jacob Tawil, Commissioner of Public Works, Walter Welch, Building Inspector, Micheal G. Moser, Deputy Commissioner, and Christopher Gross, Clark, Patterson, Lee.

During the meeting, we had the opportunity to discuss general requirements of the MS4 permit, and focus on Part VIIA detailing Illicit Discharge Detection and Elimination (IDDE) and SWMP development and implementation. The City of Middletown transmitted a copy of the undated Stormwater Management Program Plan on February 14, 2013, followed by a SSES approval by DEC in January 2004. DEC issued orders to the City to complete comprehensive work on the Middletown sewer collection system as part of a phased approach, with construction schedules to address I/I problems, with a completion by 2014.

The purpose of EPA's NPDES MS4 inspection was to identify potential sources of pathogens and illicit discharges that might impact water quality in the area which, including Monhagen and Draper Brook. The EPA inspection team consisted of Jerry Ciotola, Robert Ferri, Luis Rodriguez, and Christy Arvizu, of EPA Region 2. The initial meeting was held at the City's offices at 16 James Street, Middletown, New York 10940. The afternoon was followed by an inspection of the City DPW sanitation garage, street garage, DPW temporary storage facility, salt storage shed, and recycling/trash pickup yard. The inspection team also visited the Middletown wastewater treatment plant located at 159 Dolson Avenue in Middletown.

EPA conducted the stormwater outfall portion of the inspection in April, 2013. The outfall inspections consisted of two EPA teams. The brief exit meeting was held on April 4, 2013.

## **City of Middletown, NY**

### **Recommendations (Areas of Concern)**

1. During the February 13, 2013 inspection of the Middletown Sanitation Garage, EPA inspectors noted oil sheens, both outside and inside the facility. Middletown should restrict all flows from vehicle wash down areas are fully controlled by consolidating wash down to indoor garage locations only. We recommend that all vehicle washing and maintenance be accomplished within the interior of the facility. Service personnel should make use of spill aprons to avoid exposure of hydrocarbon contaminants at this facility. Inspectors noted sheens with a high potential to wash along the banks of the creek, entering the surface water, a potential violation of Part VII.A.6. of the SPDES General Permit under the pollution prevention/good housekeeping.
2. During the February 13, 2013 inspection of the Middletown Salt Storage Shed, inspectors noted stockpiles of cold patch without controls adjacent to the banks of the creek. We recommend removal of this material immediately to minimize a potential for contaminants entering the

waterway. Additionally, some areas along the facility had salt lumped together, forming trails throughout the yard. Deicing materials from spreaders or loaders should be restricted to covered sheds, and bermed where necessary to prevent calcium chloride materials entering the Brook, a potential violation of Part VII.A.6. of the permit under the pollution prevention/good housekeeping. Control of de-icing material spillage from loading vehicles should be restricted to a bermed area near the salt shed, rather than the current materials stockpile location to minimize tracking and exposure to the storm system due to rain events.

3. Within the maintenance and garage areas, any drums containing solvents, lubricants, or oils, should be on drip proof pallets to prevent spills and containment.
4. During the Feb inspection, inspectors noted a sediment plume at an outfall located near the Sewer Treatment Plant (STP). Inspectors followed the distribution system and found out that the possible source could enter in the system through a storm water drain located behind a Chinese Restaurant at the Mall. Middletown representatives monitored the discharge from this outfall and determined it was abated. The incident may have been related to snow control operation in the private mall parking lot, where some private snow plowing firm may have used salt and granular sand mixtures for snow melting and vehicle traction.
5. Inspectors noted a large accumulation of solid debris and precast structures within the area behind the Sanitation Garage on Main Street, which Middletown officials indicated due to Hurricane Irene. Please provide EPA a tentative schedule for the removal, along with a draft erosion and sediment control plan for this segment of the Monhagen Brook.
6. We recommend that Middletown revise its Storm Water Management Plan(SWMP), Illicit Discharge Detection and Elimination Program (IDDE), and Operations and Maintenance of Stormwater Infrastructure (O&M), and Stormwater Management and Erosion and Sediment Control to more closely reflect current operations and conditions, potential water quality impacts within the city, and ensure consistency with state and county stormwater post construction requirements, and contain measurable goals, which were not available at the time of the inspection.
7. During the outfall inspection, EPA noted that there was a lack of BMP controls at active construction sites, in particular Sunrise Hills and Orange County Community College. Part VII.A.4. of the SPDES General Permit requires that MS4 Construction Site Stormwater Runoff Control - SWMP Development / Implementation at active sites within the MS4.

### **Outfalls that could be a source of illicit discharges**

#39 Bennett Street strong odor of detergents (commercial laundry nearby)

#27 under the Transfer Station potential of cement entering the system

Cottage St. at the railroad crossing (catch basin near Barone's Auto Center) petroleum spill

Railroad Road and Cottage Street (near Morse Funeral Home, Inc) sewage filling a catch basin

Please provide EPA with the following:

1. A list of the last quarter's active construction sites, along with any deficiencies and follow-up.
2. O&M procedures and/or SOPs for the stormwater infrastructure facilities located in the city under the MS4.
3. Information requested in Paragraph 5 above.
4. A long term control plan for erosion control for the Monhagen Brook.
5. A plan to detect and eliminate direct house connections to the storm water infrastructure from floor drains, sump pumps, leaders, gutters, etc.

## **Facilities Inspections (February 13, 2013)**

### **Water Department Garage**

- River runs under the garage.
- Four (4) floor drains plugged
- Garage is being rebuilt
- Gabions are going in around the stream
- All 3 drains in shop are plugged, no drains outside
- Only sheet flow to stream
- County handles pesticide application
- Refueling vehicles is done in Wallkill

### **Sanitation Garage**

- There is a long trench (floor drain) at this facility. It is plugged.
- There are used oil drums without secondary container inside the shop
- There are many oil spots inside the shop
- FEMA is granting 3.5 million to the city to rebuild the Main Street Garage
- One emergency tank on site
- Basically this is a vehicle storage site
- There is a long drain across the garage that is plugged
- There are no o/w separators, this shop does store waste oil
- We did notice some oil sheens leading to the Monhagen stream here (pictures)

### **Street Department Garage**

- Floor drain plugged
- Oil containers located at a slumped area to avoid spills
- 1 floor drain in this garage was plugged, filled with fluid
- Some oil changes done here
- Oil drums should be spill protected and there could be some consolidation of oil locations to better manage spills
- Speedy dry is used for spills, Safety Kleen picks up waste oil and parts washing fluids

## **Recycling and Trash Pick Up**

- Oily water discharging to the near creek
- Erosion conditions at the creek
- This is a rented location.
- Some oil sheen visible, better protection of stream is needed

## **\* Salt Storage**

- Rocks and sediment need to be stabilized
- Coal patch was stored near the creek
- Need to better protect stream from salt, asphalt (uncovered at first) and gravel (uncovered at first), no drains in this area, there is a sediment berm for safety but the sediment in the berm can flow to the adjacent stream, concrete blocks were noted in the stream.
- A nearby catch basin was noted to discharge to this stream.
- Potential Sampling location: 41 26.786 - 074 25.759
- Vale Avenue and Monhagen

## **Water Treatment Plant and Transfer Station**

- All floor drains discharge to the WTP
- No filters
- They discharge treated water into Wallkill River, four (4) miles from WTP
- 3 catch basin drains in parking area go to the WWTP
- At the bridge there was an outfall about 72" with a sheen – looked like a sediment/sewage type sheen, this outfall #27 near Dolson Avenue carries water from the nearby shopping center in the town of Wallkill

## **DPW Temporary Facility**

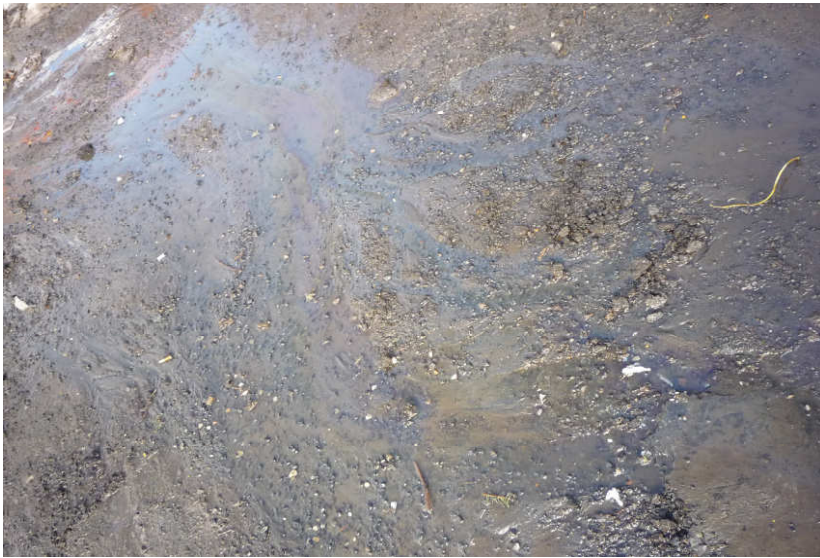
- Temporary facility due to flooding
- Temp garage
- 55 Midland Avenue ext.
- No drains in this modern, rather new building
- There was a drain in the parking lot that contained sediment
- Lots of sediment to Draper Brook

PHOTOGRAPH LOG (Panasonic Lumix L8Z)

City of Middletown, NY (Unedited photos taken by Jerry Ciotola, Environmental Engineer,  
USEPA Region 2, Water Compliance Branch, February 13, and April 1-4, 2013)



Oil sheens in the Sanitation Garage yard



Oil sheens behind Sanitation Garage yard



Drums on pallets no containment



Drums on pallets no containment



Oil staining within Sanitation Garage



Anti-caking agent (sodium ferrocyanide) was observed behind DPW facility



Precast and concrete block due to Hurricane Irene along banks of Monhagen Brook in vicinity of DPW facility



Oil staining behind Sanitation facility



Catch basin on corner of Cottage Street and Railroad Avenue full of sewage (near Morse Funeral Home)



Catch basin outside of Barone's Auto Center

Municipality  
Date and Weather  
Inspectors  
Outfall OD

Middletown  
4/1/13 some rain today and rain yesterday  
Christy Arvizu , Rob Ferri, Jerry Ciotola, Luis Rodriguez

Outfall

Observations

| ID #, street #<br>cross streets<br>site name<br>GPS coordinates | shape      | height-width<br>diameter | pipe material | condition | water               | sediment   | adjacent debris | flow volume | flow color | flow odor | debris in pipe | floatables    | staining   | notes |
|-----------------------------------------------------------------|------------|--------------------------|---------------|-----------|---------------------|------------|-----------------|-------------|------------|-----------|----------------|---------------|------------|-------|
| #1 Uhlig Road                                                   | circular   | 15"                      | concrete      | good      |                     |            |                 |             |            |           |                |               |            |       |
| #2 Uhlig Road                                                   | box        | 18"                      | concrete      | good      |                     | some       | trash           |             |            |           |                | organic       |            | 1     |
| #3 Maple Drive                                                  | circular   | 15"                      | CPP           | good      |                     | 1/2 buried | trash           |             | orange sta |           |                |               |            |       |
| #4 Maple Lane                                                   |            |                          |               |           |                     |            |                 |             |            |           |                |               |            | 2     |
| #5 Hampshire Avenue                                             |            | 30"                      | metal         |           |                     |            |                 |             |            |           |                |               |            | 3     |
| #6 Hampshire Avenue                                             |            | 20"                      | concrete      | good      |                     | some       |                 |             | muddy      |           |                |               |            | 4     |
| #7 Birch Road                                                   |            | 30"                      | steel         |           | partially submerged |            | trash           |             | muddy      |           |                |               |            | 5     |
| #8 Birch Road                                                   | circular   | 30"                      | steel         | poor      | partially submerged |            |                 |             |            |           |                | organic, alga |            | 6     |
| #9                                                              | box        | 24"                      | concrete      |           | partially submerged |            |                 |             |            |           |                |               |            | 7     |
| #10                                                             | circular   | 48"                      |               |           |                     |            | trash           | trickle     | muddy      |           |                |               |            |       |
| #11 Maple Drive                                                 |            |                          |               |           |                     |            |                 |             |            |           |                |               |            | 8     |
| #12                                                             | box        |                          |               |           | partially submerged |            | none            | moderate    | clear      | none      |                |               |            | 9     |
| #13 Westminster Drive                                           | circular   | 15"                      | concrete      | good      | partially submerged |            | none            |             | muddy      |           |                |               |            |       |
| #14 Westchester Drive                                           | circular   | 24"                      | PVC           |           | partially submerged |            |                 |             | red/orange |           |                | organic       |            |       |
| #15 Hybardi Road                                                | elliptical | 24"                      | concrete      | good      | partially submerged |            | trash           | low         |            |           |                | organic       |            |       |
| #16 South Aspen Road                                            | circular   | 48"                      | steel         |           | partially submerged |            | none            | low         | clear      | none      | none           | none          | none       | 10    |
| #17                                                             | elliptical | 30"                      | concrete      |           | partially submerged |            |                 | low         | clear      |           | trash          |               |            |       |
| #18                                                             | circular   | 24"                      | PVC           |           | partially submerged |            | trash           | none        | mud        |           | sediment       | none          | none       | 11    |
| #19, County Rtes 78 & 108                                       | circular   | 24"                      | PVC           |           | dry                 |            |                 | none        |            | none      |                |               |            | 12    |
| #20, two outfalls                                               | circular   | 30"                      | concrete      | good      | partially submerged |            | trash           | low         | muddy      | none      |                |               |            |       |
| #21, Rte 17 M                                                   | circular   | 10"                      | concrete      |           |                     |            | trash           | low         | muddy      | none      | none           |               |            | 13    |
| #22, could not observe                                          |            |                          |               |           |                     |            | trash           |             | muddy      |           |                |               |            | 14    |
| #23                                                             | circular   | 24"                      | concrete      |           | partially submerged |            | trash           |             | muddy      | none      | none           | trash         |            |       |
| #24, could not locate                                           |            |                          |               |           |                     |            |                 |             |            |           |                |               |            |       |
| #25, near sewage treatment plant                                | circular   | 12'                      | steel         |           |                     |            | trash           | trickle     |            |           | none           |               | red/orange |       |
| #26                                                             |            | 36"                      | steel         |           |                     |            | trash           |             |            |           |                |               |            |       |
| #27, under transfer station                                     |            | 12'                      |               |           |                     |            |                 |             | clear      |           |                |               |            |       |
| #28                                                             | circular   | 10"                      | concrete      |           |                     |            | trash           | low         |            |           |                |               |            |       |
| #29                                                             | circular   | 10"                      | PVC           |           |                     |            | trash           | none        |            |           |                |               |            |       |
| #30, could not find/observe                                     |            |                          |               |           |                     |            |                 |             |            |           |                |               |            |       |
| #31                                                             | circular   | 12"                      | plastic       |           |                     |            | trash           |             | clear      |           |                |               |            |       |
| #32, buried by snow                                             |            |                          |               |           |                     |            |                 |             |            |           |                |               |            |       |
| #33                                                             | circular   | 12"                      | plastic       |           |                     |            | trash           |             | clear      |           |                |               |            | 15    |
| #34                                                             | circular   | 72'                      | metal         |           | partially submerged |            | trash           | none        |            |           |                |               |            |       |
| #35, near Goodyear                                              | circular   | 18"                      | clay          |           | partially submerged |            |                 | none        | clear      |           |                |               |            |       |
| #36 near 17M, could not observe                                 |            |                          |               |           |                     |            | trash           |             |            |           |                |               |            |       |
| #37                                                             | circular   | 24"                      |               | good      |                     | none       | trash           | none        |            |           |                |               |            |       |
| #38                                                             | circular   | 10"                      | PVC           |           |                     |            |                 | none        |            |           |                |               |            | 16    |
| #39 Bennett Street                                              | circular   | 36"                      |               |           |                     |            | trash           | trickle     | clear      |           |                |               |            | 17    |

|                                |          |     |          |  |                     |  |       |      |       |      |          |  |            |  |    |
|--------------------------------|----------|-----|----------|--|---------------------|--|-------|------|-------|------|----------|--|------------|--|----|
| #40 could not locate, buried   |          |     |          |  |                     |  |       |      |       |      |          |  |            |  | 18 |
| #42 Spring Hollow Housing Area | circular | 24" | concrete |  |                     |  |       | low  | muddy |      |          |  | green      |  | 19 |
| #43                            | circular | 24" | steel    |  | partially submerged |  | trash | none |       | none | sediment |  |            |  | 20 |
| #44, Spring Hollow             |          | 18" | steel    |  | partially submerged |  | trash |      |       |      |          |  |            |  | 21 |
| #45, Alex Court                | circular | 15" | concrete |  |                     |  | trash |      |       |      |          |  |            |  | 22 |
| #46, Alex Court                | box      | 24" | concrete |  |                     |  |       | none |       |      |          |  |            |  | 23 |
| #47, Beers Drive               | circular | 36" | concrete |  |                     |  | trash | low  | clear |      |          |  | red/orange |  | 24 |

|                                          |          |         |          |           |         |               |         |          |       |              |      |      |             |    |                     |  |
|------------------------------------------|----------|---------|----------|-----------|---------|---------------|---------|----------|-------|--------------|------|------|-------------|----|---------------------|--|
| #96, Highland View (House 19)            | Circular | 24"     | HDPE     | Good      | Partial | None          | None    | Heavy    | Clear | None         | None | None | None        | 25 | Pond                |  |
| #95, Ego Court                           | Circular | 18"     | HDPE     | Good      | Partial | None          | None    | Heavy    | Clear | None         | None | None | None        |    | Wetland, then M. C. |  |
| #94, Highland View (Houses 35 and 37)    | Circular | 24"     | HDPE     | Good      | Partial | None          | None    | None     | Clear | None         | None | None | None        | 26 | Wetland, then M. C. |  |
| #93, Highland View                       | Circular | 24"     | HDPE     | Good      | Partial | None          | None    | None     | Clear | None         | None | None | None        |    | Wetland, then M. C. |  |
| #92, Highland View                       | Circular | 36"     | HDPE     | Good      | Partial | None          | None    | Low      | Clear | None         | None | None | None        |    | Wetland, then M. C. |  |
| #91, Einsenhower Drive                   | Circular | 36"     | Concrete | Good      | Partial | None          | None    | Moderate | Clear | None         | None | None | None        | 27 | Monhagen Tributary  |  |
| #87, Kyleigh Way (House 14)              | Circular | 15"     | HDPE     | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Wetland, then M. C. |  |
| #88, Kyleigh Way                         | Circular | 18"     | HDPE     | Good      | Partial | None          | None    | Low      | Muddy | None         | None | None | None        | 28 | Wetland, then M. C. |  |
| #90, Highland Ave.                       | N/A      | N/A     | N/A      | N/A       | N/A     | N/A           | N/A     | N/A      | N/A   | N/A          | N/A  | N/A  | N/A         | 29 | Monhagen Brook      |  |
| #86, Vincent Dr.                         | Circular | 18"     | Concrete | Fair      | None    | Partial       | None    | None     | None  | None         | None | None | None        | 30 | Monhagen Brook      |  |
| #85, Cottage Drive                       | Circular | 30"     | HDPE     | Fair      | None    | None          | None    | None     | None  | None         | None | None | Green algae | 31 | Monhagen Brook      |  |
| #82, High School                         | Circular | 18"     | HDPE     | Good      | None    | None          | None    | None     | None  | None         | None | None | Green algae |    | Monhagen Brook      |  |
| #81, High School                         | Circular | 18"     | HDPE     | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #134, Brewster and Windropt              | Circular | 18"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 32 | Monhagen Brook      |  |
| #80, High School rear area               | N/A      | 18"     | N/A      | N/A       | N/A     | N/A           | N/A     | N/A      | N/A   | N/A          | N/A  | N/A  | N/A         | 33 | Monhagen Brook      |  |
| #132, Brewster (Opposite side)           | Circular | 18"     | Concrete | Good      | None    | None          | None    | None     | None  | N/A          | None | None | None        |    | Monhagen Brook      |  |
| #133, Brewster Drive                     | Circular | 18"     | Concrete | Good      | Partial | None          | None    | Moderate | Clear | None         | None | None | None        | 34 | Monhagen Brook      |  |
| #131, Brewster Drive                     | Circular | 18"     | Concrete | Good      | Partial | None          | None    | Moderate | None  | None         | None | None | None        | 35 | Monhagen Brook      |  |
| #129, Brewster Drive                     | Circular | 18"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | Green algae |    | Monhagen Brook      |  |
| #130, Brewster Drive (Opposite side)     | Circular | 18"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 36 | Monhagen Brook      |  |
| #135, Brewster Drive                     | Circular | 12"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 37 | Monhagen Brook      |  |
| #136, Lake Ave and Davidge Pond          | N/A      | N/A     | N/A      | N/A       | N/A     | N/A           | N/A     | N/A      | N/A   | N/A          | N/A  | N/A  | N/A         | 38 | Monhagen Brook      |  |
| #108, Lake Ave.                          | Circular | 15"     | Concrete | Good      | Partial | None          | None    | Moderate | Clear | None         | None | None | None        |    | Monhagen Brook      |  |
| #109, Lake Ave.                          | Circular | 15"     | Concrete | Good      | Partial | None          | None    | Moderate | Clear | None         | None | None | None        |    | Monhagen Brook      |  |
| #107, Lake Ave.                          | Circular | 14"     | CMP      | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #106, Lake Ave.                          | Circular | 14"     | CMP      | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #111, Ashland St.                        | Circular | 12"     | Concrete | Good      | None    | Sediment, and | Debris  | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #110, Ashland St.                        | Circular | 12"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #98, Willkill Ave. (Town Terrace apartme | Circular | 36"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 39 | Monhagen Brook      |  |
| #99, Willkill Ave. (Town Terrace apartme | Circular | 15"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 39 | Monhagen Brook      |  |
| #100, Willkill Ave. (Town Terrace apartm | Circular | 30"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 39 | Monhagen Brook      |  |
| #101, Willkill Ave. (Town Terrace apartm | Circular | 15"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        | 39 | Monhagen Brook      |  |
| #102, Willkill Ave. (Town Terrace apartm | Circular | 36"     | Concrete | Good      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #103, Willkill Ave.                      | Circular | 30"     | HDPE     | Good      | None    | Partial       | Sedimen | None     | None  | None         | None | None | None        | 40 | Monhagen Brook      |  |
| #104, Willkill Ave.                      | Circular | 12"     | Concrete | Good      | Partial | None          | Partial | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #105, Liberty Ave.                       | Circular | 18"     | CMP      | Poor      | None    | None          | None    | None     | None  | None         | None | None | None        |    | Monhagen Brook      |  |
| #112, Monhagen Ave.                      | Circular | 18" Con | Concrete | Good      | Partial | None          | None    | None     | None  | None         | None | None | None        | 41 | Monhagen Brook      |  |
| #48, Genang St.                          | Circular | 12"     | Clay     | Disjointe | Partial | None          | None    | Low      | None  | Putrefaction |      |      |             | 42 | Monhagen Brook      |  |
| #50, Sterling St.                        | N/A      | N/A     | N/A      | N/A       | N/A     | N/A           | N/A     | N/A      | N/A   | N/A          | N/A  | N/A  | N/A         | 43 | Monhagen Brook      |  |

|                                     |          |     |                    |                     |                     |      |      |      |       |     |          |      |      |      |    |                |
|-------------------------------------|----------|-----|--------------------|---------------------|---------------------|------|------|------|-------|-----|----------|------|------|------|----|----------------|
| #51, Sterling St.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 43 | Monhagen Brook |
| #53, Grant St.                      | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #54, Grant St.                      | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #56, Grant St.                      | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #57, Grant St.                      | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #59, East Main St.                  | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | Heavy | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #60, East Main St.                  | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | Heavy | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #66, Rail Rd./ Grove St.            | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #65, Rail Rd./ Grove St.            | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #67, Thrall Park                    | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #68, Thrall Park                    | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #69, Thrall Park                    | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #70, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #71, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #72, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #73, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #74, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #79, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #75, Wickham Ave.                   | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 44 | Monhagen Brook |
| #76, Smith St/ Low Ave.Wickham Ave. | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 45 | Monhagen Brook |
| #77, Smith St/ Low Ave.Wickham Ave. | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 45 | Monhagen Brook |
| #78, Smith St/ Low Ave.Wickham Ave. | N/A      | N/A | N/A                | N/A                 | N/A                 | N/A  | N/A  | N/A  | N/A   | N/A | N/A      | N/A  | N/A  | N/A  | 45 | Monhagen Brook |
| #128, Euclid Ave.                   | Circular | 30" | Concrete           | Good                | None                | None | None | N/A  | N/A   | N/A | None     | None | None | None |    | Monhagen Brook |
| no ID                               | circular | 10" | plastic            |                     |                     |      |      | none |       |     |          |      |      |      | 48 |                |
| #118 California                     | circular | 48" | plastic            |                     |                     |      |      | low  | clear |     |          |      |      |      |    |                |
| #119, West Main Street              | circular | 24' | concrete           | good                |                     |      |      | low  |       |     |          |      |      |      |    |                |
| #120, Hillside Cemetary             | circular | 24" | concrete           | fair                | slightly submerged  |      |      | low  | clear |     |          |      |      |      |    |                |
| #121 at Cemetary                    | circular | 12" | clay               |                     |                     |      | none | none |       |     | sediment |      |      |      |    |                |
| #122                                | circular | 12" | steel              |                     | partially submerged |      |      | none |       |     |          |      |      |      |    |                |
| #123, at College Pond               | circular | 10" | metal              |                     |                     |      |      |      | clear |     |          |      |      |      | 49 |                |
| #124                                |          |     |                    |                     |                     |      |      |      |       |     |          |      |      |      | 50 |                |
| #125                                | circular | 24" | corrugated plastic |                     |                     |      |      |      |       |     |          |      |      |      | 51 |                |
| #126, East Conklin                  |          | 72" | metal in concrete  | partially submerged |                     |      |      | none |       |     |          |      |      |      |    |                |
| #127                                | box      | 48" | concrete           |                     |                     |      |      | low  |       |     |          |      |      |      | 52 |                |
| #128, Wawayanda Pl. and Ave         |          |     |                    |                     |                     |      |      |      |       |     |          |      |      |      |    |                |

Notes      Notes      Notes

1. drop box with grate and metal protector
2. could not find
3. really a culvert
4. next to a culvert, discharges to Rubin's Lake
5. really a culvert
6. really a culvert, along railroad tracks, more flow here
7. along railroad tracks, near a playground, some sediment but much cleaner flow
8. could not find
9. really a culvert, small bridge over it
10. really a culvert in a concrete headwall
11. across from the Quickcheck driveway
12. County Route 78 and Route 108 at Quick Check

13. Rte 17 M or Dolson Ave, near Subaru Dealer
14. heard trickle flow
15. garbage bins at shopping plaza all lined up adjacent to stream
16. near Orange and Rockland Utilities
17. detergent smell here (near commercial laundry)
18. outfall needs to be dug out
19. three pipes, one flowing to Monhagan Brook
20. three quarters full of sediment
21. half full of sediment
22. catch basins in area have a dangerously large opening, observed small private connections , discharges to a wetland
23. retention pond w/box to outfall #46
24. noted some foam, near two pools
25. Flow showing foaming. A detergent test was performed in this location; result 0.70 ppm. Pictures 101-0590, 101-0591.
26. No water running, ferric oxide.
27. Pipe disjointed.
28. Silt from retention pond.
29. A subsurface catch basin.
30. No flow, heavily silted in.
31. Excessive algae grown, pictures 101-0595, 101-0594. GPS 40 27.897/ -74 24.09
32. No flow, trees are eroding above the crown.
33. No visible, no accesible.
34. Disjointed, flowing.
35. Disjointed.
36. Severe croded creek.
37. Creek severe eroded.
38. An overflow from the pond. A 6" sanitary line run through the pond \*\*\*\*
39. Fence around. #101 is disjointed.
40. Silty.
41. Concrete pipe disjointed.
42. Four unmarked discharge pipes below bridge
43. Underground- No observable. There is a sewer line (48")- sanitary. Cabitation.
44. Underground- No observable.
45. Underground- No observable. Collapsed catch basin.
46. Catch Basin. Petroleum in CB. Photos 101-600; 602. 41 27.016/-74 24.773, Cottage St. at the RR crossing (Barrones Auto)
47. Catch Basin with potential sanitary connection. Photos 101-597; 599. 41 26.864/-74 24.933; Railroad Rd/Cottages St (Morse Funeral Home, Inc.)
48. observed from a distance
49. under bridge, near pond at college
- \* 50. could not observe outfall in rock wall, cement spills outside stopping at the silt fence, contractors using a leaking dumpster for cement washout
51. near college construction
52. college parking,

